

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-24, 26-30 and 33-52 are pending in the present application. Claims 1, 23, 28, 33 and 37 are amended by the present amendment. No new matter is added.

In the outstanding Office Action, Claims 1, 4 and 28 were objected to as including informalities; Claims 14-17 were rejected under 35 U.S.C. §112, second paragraph; Claims 1, 3, 6, 7, 18, 21, 33-38, 41-43, 48, and 51 were rejected under 35 U.S.C. §102(b) as anticipated by Asano et al. (U.S. Patent 5,289,234, herein “Asano”); Claims 23, 26 and 28-30 were rejected as anticipated by Saito et al. (U.S. Pat. Pub. No. 2003/0091366); Claim 2 was rejected under 35 U.S.C. §103(a) as unpatentable over Asano in view of Noda et al. (U.S. Publication 2002/0122677 herein “Noda”); Claims 8, 9, 44, and 45 were rejected under 35 U.S.C. §103(a) as unpatentable over Asano in view of Ebata et al. (U.S. Patent 5,023,660 herein “Ebata”); Claims 10-12, 46 and 47 were rejected under 35 U.S.C. §103(a) as unpatentable over Asano in view of Kinoshita et al. (U.S. Patent 5,404,203 herein “Kinoshita”); Claim 13 was rejected under 35 U.S.C. §103(a) as unpatentable over Asano in view of Miyabe et al. (U.S. Patent 5,950,047 herein “Miyabe”); Claims 14 and 15 were rejected under 35 U.S.C. §103(a) as unpatentable over Asano in view of Ojima et al. (U.S. Publication 2004/0191663 herein “Ojima”); Claim 16 was rejected under 35 U.S.C. §103(a) as unpatentable over Asano in view of Ojima and Yamashiro et al. (U.S. Patent 5,328,795 herein “Yamashiro”); Claim 17 was rejected under 35 U.S.C. §103(a) as unpatentable over Asano in view of Ojima and Inoue et al. (Japanese Publication 2000-172015 herein “Inoue”); Claims 19, 20 and 22 were rejected under 35 U.S.C. §103(a) as unpatentable over Asano in view of Keen (U.S. Patent 4,816,877); Claims 39 and 40 were rejected under 35 U.S.C. §103(a) as unpatentable over Asano in view of Kosuge (U.S. Publication 2003/004201);

Claims 49, 50, and 52 were rejected under 35 U.S.C. §103(a) as unpatentable over Asano in view of Keen; Claims 4 and 5 were allowed; and Claims 24 and 27 were indicated as allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants gratefully acknowledge the indication of allowable subject matter in Claims 4, 5, 24 and 27.

With respect to the objection to Claims 1, 4 and 28, Applicants respectfully submit that Claim 28 has been amended to depend from Claim 23. Accordingly, Applicants respectfully request that that objection to Claims 1, 4 and 28 be withdrawn.

Regarding the rejection of Claims 14-17 under 35 U.S.C. §112, second paragraph, Applicants respectfully traverse this rejection. Specifically, the outstanding Action states on pages 2-3 that

The Office is unable to ascertain the full metes and bounds of the invention. Claim 1 recites a process cartridge comprising a developing unit and claims 14-17 recites a developing unit is configured to [use] toner. While the claims recite that the developing unit is configured to use a toner with particular characteristics, no structure is defined which makes the developing unit particularly configured to use the recited tone over any other possible toner with similar or different characteristics.

However, Applicants note that MPEP §2173.05(g) states

A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients). There is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. *In re Swinehart*, 439 F.2d 210, 169 USPQ 226 (CCPA 1971).

A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used.

...whether or not the functional limitation complies with 35 U.S.C. 112, second paragraph, is a different issue from whether the limitation is properly supported under 35 U.S.C. 112, first paragraph, or is distinguished over the prior art. A few examples are set forth below to illustrate situations where the issue of whether a functional limitation complies with 35 U.S.C. 112, second paragraph, was considered.

...in a claim that was directed to a kit of component parts capable of being assembled, the Court held that limitations such as "*members adapted to be positioned*" and "portions . . . being resiliently dilatable whereby said housing may be slidably positioned" *serve to precisely define present structural attributes of interrelated component parts of the claimed assembly*. In re Venezia, 530 F.2d 956, 189 USPQ 149 (CCPA 1976). (emphasis added).

Applicants disagree with the assessment that Claims 14-17 do not sufficiently define the structure of the developing unit. Even if the developing unit recited in Claims 14-17 is defined by functional terms, this does not automatically result in the conclusion that the full metes and bounds of the invention cannot be ascertained. In fact, as noted above, "there is nothing inherently wrong with defining some part of an invention in functional terms." In addition, *In re Venezia* clearly states that that limitations such as "members adapted to be positioned" serve to precisely define present structural attributes of interrelated component parts of the claimed assembly. Thus, Applicants respectfully submit that Claims 14-17 precisely define the present structural attributes of the developing unit such that a person of ordinary skill in the art would clearly understand the metes and bounds of the invention. For instance, Claim 14, clearly is limited to a developing unit that is configured to use a toner having an average circularity in a range of 0.93 to 1.00. This claim specifically limits the developing unit to one that is adapted to use toner having a specific average circularity. Accordingly, Applicants respectfully request the rejection under 35 U.S.C. §112, second paragraph, be withdrawn.

Applicants respectfully traverse the rejection of Claims 1, 3, 6, 7, 18, 21, 31-38, 41-43, 48, and 51 under 35 U.S.C. §102(b) as anticipated by Asano, with respect to amended independent Claims 1 and 33.

Amended Claim 1 recites, in part,

a frame body made up of at least first and second frame bodies that are movable relative to each other to form a space in an open state and to close the space in a closed state;

a frame body positioning member positioning the first and second frame bodies;

a latent image bearing member, supported by the frame body, and replaceable in the process cartridge via the space formed by the first and second frame bodies;

a developing unit supplying a developing agent to the latent image bearing member, the developing unit configured to be replaceable in the process cartridge in the closed state via a space in the process cartridge different than the space formed by the first and second frame bodies and configured to be replaceable in the process cartridge in a state where the latent image bearing member is supported by the frame body; and

a developing position determining member, disposed at a non-overlapping position relative to the frame body positioning member, and positioning the developing unit with respect to the frame body.

Asano describes an image forming apparatus having a detachable imaging cartridge 10 (e.g., process cartridge) that is made of (1) a portion 102 that includes a developing device 3,¹ (2) a photosensitive drum 1 and (3) a portion 101. According to the structure of Asano, it is necessary to remove the photosensitive drum 1 in order to replace the developing device 3.

However, Asano does not describe or suggest all of the features recited in Claim 1. For instance, Asano does not describe or suggest a developing unit supplying a developing agent to the latent image bearing member, the developing unit configured to be replaceable in the process cartridge in the closed state via a space in the process cartridge different than the space formed by the first and second frame bodies and configured to be replaceable in the process cartridge in a state where the latent image bearing member is supported by the frame body.

The outstanding Action states on page 4, with respect to the developing unit of Claim 1, “the cartridge and thus the developing unit, is removably or replaceable installed in the image forming apparatus through some space in the image forming apparatus.”

¹ Asano at Abstract and Fig. 10.

In response, Applicants note that Claim 1 has been amended to clarify that the developing unit is configured *to be replaceable* in the process cartridge in the closed state *via a space in the process cartridge different than the space formed by the first and second frame bodies*. Accordingly, Applicants respectfully submit that Asano does not describe that the developing unit is replaceable via a space in the process cartridge different than the space formed by the first and second frame bodies. In fact, the developing device of Asano is unable to be removed from the cartridge as it is built in.

Further, Asano does not describe or suggest that a developing unit is configured to be replaceable in the process cartridge in a state where the latent image bearing member is supported by the frame body. Although the developing unit of Asano may be replaceable *in the image forming apparatus* while the developer roller is still in the cartridge, the developing device of Asano is not able to be replaceable in the process cartridge.

Accordingly, Applicants respectfully submit that Claim 1 patentably distinguishes over Asano.

With respect to Claim 33, Applicants also respectfully traverse the §102 rejection of this claim over Asano.

Claim 33 recites, in part,

a frame body made up of at least first and second frame bodies that are movable relative to each other to form a space in an open state and to close the space in a closed state;

a latent image bearing member supported by the frame body; and

at least one process unit provided integrally with the latent image bearing member and supported by the frame body, the at least one process unit configured to be replaceable in the process cartridge in the closed state via a space in the process cartridge different than the space formed by the first and second frame bodies and configured to be replaceable in the process cartridge in a state where the latent image bearing member is supported by the frame body,

the latent image bearing member and the at least one process unit being independently replaceable,

wherein a cleaning unit forms one process unit.

The outstanding Action states on pages 6 and 7 that the at least one process unit recited in Claim 33 is equivalent to the charge brush 2 of Asano. However, amended Claim 33 recites that a cleaning unit forms one process unit.

In Asano, the cleaning device 5 is not replaceable in the process cartridge in the closed state via a space in the process cartridge different than the space formed by the first and second frame bodies and configured to be replaceable in the process cartridge in a state where the latent image bearing member is supported by the frame body.

In addition, the cleaning device 5 of Asano is not independently replaceable along with the latent image bearing member.

Accordingly, Applicants respectfully submit the Claim 33 patentably distinguishes over Asano.

Moreover, Applicants respectfully submit that none of the further cited Noda, Ebata, Kinoshita, Miyabe, Ojima, Yamashiro, Inoue, Keen or Kosuge references cures the above noted deficiencies of Asano.

Therefore, Applicants respectfully submit that independent Claims 1 and 33, and claims depending therefrom, are allowable.

Addressing now the rejection of Claims 23, 26 and 28-30 under 35 U.S.C. §102(b) as anticipated by Saito, Applicants respectfully traverse this rejection.

Claim 23 recites, in part,

a frame body made up of at least a first frame body and a second frame body that are movable relative to each other to form a space;

a latent image bearing member supported by the frame body and replaceable via the space formed by the first and second frame bodies;

a developing unit supplying a toner to the latent image bearing member and configured to be replaceable in the process cartridge in a state where the latent image bearing member remains supported by the frame body;

a developing position determining member positioning the developing unit with respect to the frame body;

a cleaning unit cleaning the toner on the latent image bearing member and configured to be replaceable from the process cartridge;

Saito describes an image forming apparatus which includes an image station 140. The image station 140 includes a cassette case 60a and a developing device 60 which includes a magenta section 190 and a cyan section 200.

However, Saito does not describe or suggest all of the features of Claim 23. For instance, Saito does not describe or suggest a developing unit supplying a toner to the latent image bearing member and configured to be replaceable in the process cartridge in a state where the latent image bearing member remains supported by the frame body.

The outstanding Action states on page 10 that the developing unit recited in Claim 23 is described by the developing device 60 of Saito. Specifically, the outstanding Action cites Figure 31 as illustrating that the developing device 60 is replaceable.

However, Applicants note that the developing device 60 which includes the magenta section 190 and the cyan section 200, is not replaceable in the process cartridge in a state where the latent image bearing member remains supported by the frame body. As can be seen in Figures 10-12 as well as Figure 31, the drum 160 must be removed from the image station 140 prior to the replacement of the developing device 60. Therefore, Applicants respectfully submit that Claim 23 cannot be anticipated by the description of Saito.

Accordingly, Applicants respectfully submit that Claim 23, and Claims 26 and 28-30 depending therefrom, patently distinguish over Saito.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

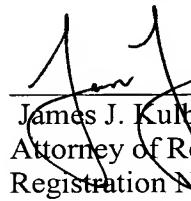
Respectfully submitted,

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